

nyhart

***Indiana State Teachers'
Retirement Fund***

***Annual Actuarial Valuation
June 30, 2012***

Indiana State Teachers' Retirement Fund

Annual Actuarial Valuation

as of June 30, 2012

Nyhart

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November 28, 2012

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***The Board of Trustees
Indiana Public Retirement System
Indianapolis, IN***

Dear Board Members:

An actuarial valuation is prepared annually for the Indiana State Teachers' Retirement Fund. Submitted in this report are the results of the June 30, 2012 actuarial valuation.

Census Data and Asset Information

The member census data and the asset information for this valuation were furnished by the Chief Financial Officer and Staff. Their efforts and cooperation in furnishing these materials are acknowledged with appreciation. We did not audit the information provided, but we did review it thoroughly for reasonableness and compared it with the prior year's submission for consistency.

Assumptions and Methods

The actuarial assumptions used in the June 30, 2012 valuation were adopted by the Board on June 29, 2012, pursuant to the Experience Study of 2012, which reflects the experience period from July 1, 2007 to June 30, 2011. The interest rate and mortality assumptions were approved by the Board on June 29, 2012 for first use in the 2012 valuation. In addition, minor changes were also made to the retirement, withdrawal, and pay increase assumptions based on the Experience Study of 2012. Assumptions are summarized in the Assumptions and Methods section of this report. These assumptions and methods have been used to develop the Annual Required Contribution and are consistent with the accounting requirements detailed in GASB Statements No. 25, No. 27, and No. 50.

Funding Objective

The Indiana State Teachers' Retirement Fund Pre-1996 Account is funded on a pay-as-you-go basis from the State of Indiana.

The funding objective of the Indiana State Teachers' Retirement Fund 1996 Account is to establish and receive contributions that, when invested at the assumed rate of return, will ultimately accumulate assets over each member's working lifetime that will be sufficient to pay expected retirement allowances. As such, an employer contribution rate is calculated each year. That rate is then considered in conjunction with the goal of maintaining a relatively stable contribution over time.

Fund Structure

The Indiana State Teachers' Retirement Fund (TRF) is one fund comprised of a two-account structure in compliance with Indiana Code Section 5-10.4-2-2:

1. The Pre-1996 Account consists of members who were hired prior to July 1, 1995, and who have maintained continuous employment with the same school corporation or covered institution since that date.
2. The 1996 Account consists of members who were:
 - a. hired on or after July 1, 1995; or
 - b. hired before July 1, 1995, and prior to June 30, 2005:
 - i. were either hired by another school corporation or institution covered by TRF, or
 - ii. were re-hired by a covered prior employer.

Characteristics of the Pre-1996 Account

1. Active membership in the Pre-1996 Account continues to decline as members quit, become disabled, die, or retire.
2. The Defined Benefits from the Pre-1996 Account are funded by State appropriations (including contributions of some revenue from the State Lottery). At the time of retirement, Annuity Savings Account (ASA) benefits payable from the Pre-1996 Account are funded by the annuitization of Pre-1996 Account member contributions.

Characteristics of the 1996 Account

1. As members depart from active service in the Pre-1996 Account, their replacements will become members of the 1996 Account. If the 1996 Account were a stand-alone plan, this pattern of departures and hirings would produce a fairly constant population size.
2. Defined Benefits payable from the 1996 Account are funded by contributions from local school corporations or other institutions that employ covered members. At the time of retirement, ASA benefits payable from the 1996 Account are funded by the annuitization of 1996 Account member contributions.

Funding Arrangements

Prior to the legislation that established the two-account structure of TRF, the Defined Benefits of the Indiana State Teachers' Retirement Fund were funded with a pay-as-you-go method. Under this arrangement, amounts were appropriated to meet the current year's pension payment requirements. Defined Benefits payable from the Pre-1996 Account continue to be funded on this basis.

In 1995, the Pension Stabilization Fund was set up for the Pre-1996 Account. Since then, some pre-funding progress has been made via State appropriations to this account.

Defined Benefits payable from the 1996 Account are funded through employer percent-of-pay contributions. The Board of the Indiana Public Retirement System sets this contribution rate after reviewing the most recent actuarial valuation report.

The contribution rate of 7.50% for fiscal year 2013 was set by the Board in fiscal year 2012 for the 1996 Account. The contribution rate of 7.50% for fiscal year 2014 was set by the Board in fiscal year 2013.

Progress Toward Realization of Financing Objectives

The funded ratio (the ratio of the actuarial value of assets to the actuarial accrued liability) is a standard measure of a Plan's funded status. In the absence of benefit improvements, it should increase over time, until it reaches 100%. The total funded ratio for the Plan (Pre-1996 Account and 1996 Account combined) decreased by 1.1%, to 42.7% from 43.8% for the preceding year due primarily to the reduction in the interest rate assumption from 7.0% to 6.75%, and 2009 – 2012 investment returns being lower than the actuarial assumed returns.

The funded ratio of the Pre-1996 Account (pay-as-you-go) decreased to 30.1% from 32.0% for the preceding year. Based on the actuarial assumptions, it is anticipated that the Pre-1996 Account will attain 100% funded status in FY2036.

The funded ratio of the 1996 Account decreased to 90.7% from 91.7% for the preceding year. Based on the actuarial assumptions, it is anticipated that the 1996 Account will attain 100% funded status in FY2021.

Certification

We have included several schedules and exhibits in this report, including the following:

Summary of Actuarial Assumptions and Methods

Analysis of Financial Experience

Solvency Test

Schedule of Active Members' Valuation Data

Schedule of Retired Members and Beneficiaries

Schedule of Funding Progress

Schedule of Employer Contributions

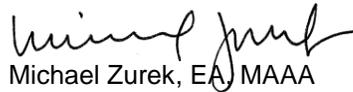
The valuation was completed under the supervision of a Member of the American Academy of Actuaries with significant experience in valuing employee retirement systems, and was prepared using generally accepted actuarial principles and in accordance with standards of practice prescribed by the Actuarial Standards Board. To the best of our knowledge, this report is complete and accurate and the actuarial methods and assumptions produce results that are reasonable.

Respectfully submitted,



John L. Dowell, FSA, EA, MAAA

JD/lmw



Michael Zurek, EA, MAAA

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Comments

Contribution Rates

The Calculated Contribution Rate section shows the calculated rate for the 1996 Account. That rate is determined as if the 1996 Account were a stand-alone plan.

Since the Pre-1996 Account is funded on a pay-as-you-go basis, only the expected benefit payments are shown in the Calculated Contribution Rate section. A similar normal cost plus UAL amortization contribution rate was calculated for the Pre-1996 Account and the two rates have been combined to determine the Annual Required Contribution shown in the GASB Disclosures section.

Plan Provisions

There is no ad-hoc COLA on January 1, 2013. Instead, retirees were paid a service-related lump sum (i.e., referred to as 13th check) in September 2012. These changes are reflected in the June 30, 2012 valuation. Any future COLA is estimated by an ongoing assumption of 1.0% annual increases in all pension payments beginning January 1, 2014. We are not aware of any other material changes in the plan provisions since the June 30, 2011 actuarial valuation.

Census Data

Census data for the valuation was provided by INPRS. We have thoroughly examined the data for reasonableness and consistency with prior years, but we did not otherwise audit it.

Assumptions and Methods

The actuarial assumptions used in the June 30, 2012 valuation are based on plan experience from July 1, 2007 to June 30, 2011. Changes in the demographic assumptions (i.e., mortality, retirement, and withdrawal) and economic assumptions (i.e., pay increase) pursuant to the experience study were approved by the Board on June 29, 2012. The change in interest rate, from 7.00% to 6.75%, was approved by the Board on June 29, 2012 for first use in the 2012 valuation.

Investment Experience

The investment return for the year ended June 30, 2012 was lower than the assumed 7.0% return. The market value rate of return was 1.7%. Under the asset valuation method, market gains and losses are spread over a four-year period. The Market Value of Assets is currently \$162 million higher than the Actuarial Value of Assets, meaning the plan is currently in a position of having net deferred investment gains to be recognized in future years.

Challenges

The 1996 Account has been steadily funded since its inception. As membership in that portion of the plan increases, the amount of required contributions will increase as a dollar amount, but should remain relatively stable as a percentage of covered payroll with plan experience causing gradual changes. A significant funding challenge will be for the State to meet the projected pay-as-you-go obligations as shown in the Payout Projections section for the Pre-1996 Account.

Summary of Key Valuation Results

	6/30/2012			6/30/2011
	Pre-1996 Account	1996 Account	Total Fund	
Member Information				
Number				
Active Members	22,688	47,885	70,573	71,343
Inactive Vested Members	3,382	2,985	6,367	6,636
Inactive Nonvested Members	794	12,528	13,322	27,168
Retired Members and Beneficiaries	<u>47,000</u>	<u>2,971</u>	<u>49,971</u>	<u>47,975</u>
Total	73,864	66,369	140,233	153,122
Active Payroll	\$ 1,637,066,246	\$ 2,594,952,143	\$ 4,232,018,389	\$ 4,269,943,587
Annual Benefit Payments				
Annuity	\$ 105,506,100	\$ 5,885,028	\$ 111,391,128	\$ 105,559,788
Pension	<u>792,499,560</u>	<u>49,589,640</u>	<u>842,089,200</u>	<u>793,037,988</u>
Total	\$ 898,005,660	\$ 55,474,668	\$ 953,480,328	\$ 898,597,776
Assets and Liabilities				
Accrued Liability				
ASA Account Balance	\$ 1,974,075,962	\$ 899,338,904	\$ 2,873,414,866	\$ 3,094,797,000
ASA Annuities	1,003,211,894	65,008,426	1,068,220,320	991,368,902
Pension: Retirees	8,256,856,617	581,152,801	8,838,009,418	8,109,116,668
Pension: Non-retirees	<u>5,287,870,046</u>	<u>2,792,808,887</u>	<u>8,080,678,933</u>	<u>8,119,960,285</u>
Total	\$ 16,522,014,519	\$ 4,338,309,018	\$ 20,860,323,537	\$ 20,315,242,855
Market Value of Assets				
ASA Account Balance	\$ 1,974,075,962	\$ 899,338,904	\$ 2,873,414,866	\$ 3,094,797,000
ASA Annuities	1,003,211,894	65,008,426	1,068,220,320	991,368,902
Pension: Retirees	2,081,622,532	581,152,801	2,662,775,333	2,662,516,205
Pension: Non-retirees	<u>0</u>	<u>2,472,648,706</u>	<u>2,472,648,706</u>	<u>2,373,054,786</u>
Total	\$ 5,058,910,388	\$ 4,018,148,837	\$ 9,077,059,225	\$ 9,121,736,893
Actuarial Value of Assets				
ASA Account Balance	\$ 1,974,075,962	\$ 899,338,904	\$ 2,873,414,866	\$ 3,094,797,000
ASA Annuities	1,003,211,894	65,008,426	1,068,220,320	991,368,902
Pension: Retirees	2,000,818,682	581,152,801	2,581,971,483	2,544,022,819
Pension: Non-retirees	<u>0</u>	<u>2,390,954,905</u>	<u>2,390,954,905</u>	<u>2,261,870,624</u>
Total	\$ 4,978,106,538	\$ 3,936,455,036	\$ 8,914,561,574	\$ 8,892,059,345
Unfunded Accrued Liability				
ASA Account Balance	\$ 0	\$ 0	\$ 0	\$ 0
ASA Annuities	0	0	0	0
Pension: Retirees	6,256,037,935	0	6,256,037,935	5,565,093,849
Pension: Non-retirees	<u>5,287,870,046</u>	<u>401,853,982</u>	<u>5,689,724,028</u>	<u>5,858,089,661</u>
Total	\$ 11,543,907,981	\$ 401,853,982	\$ 11,945,761,963	\$ 11,423,183,510
Funded Percentage				
ASA Account Balance	100.0%	100.0%	100.0%	100.0%
ASA Annuities	100.0%	100.0%	100.0%	100.0%
Pension: Retirees	24.2%	100.0%	29.2%	31.4%
Pension: Non-retirees	<u>0.0%</u>	<u>85.6%</u>	<u>29.6%</u>	<u>27.9%</u>
Total	30.1%	90.7%	42.7%	43.8%
Pension Normal Cost	\$ 81,343,107	\$ 147,336,605	\$ 228,679,712	\$ 239,359,419
Annual Costs				
	Fiscal 2014			Fiscal 2013
Annual Required Contribution (ARC)	\$ 879,072,240	\$ 195,240,960	\$ 1,074,313,200	\$ 1,062,667,210
1996 Account Only				
Calculated Contribution Rate				
Normal Cost		5.68%		5.84%
Amortization of Unfunded Liability		<u>1.16%</u>		<u>1.01%</u>
Total		6.84%		6.85%
Actual Employer Contribution Rate		7.50%		7.50%
Pre-1996 Account Only				
Expected Pension Benefit Payments	885,000,000			866,600,000
Expected Pension Contributions	809,200,000			1,012,900,000

Unfunded Accrued Liability

Pre-1996 Account

\$Millions

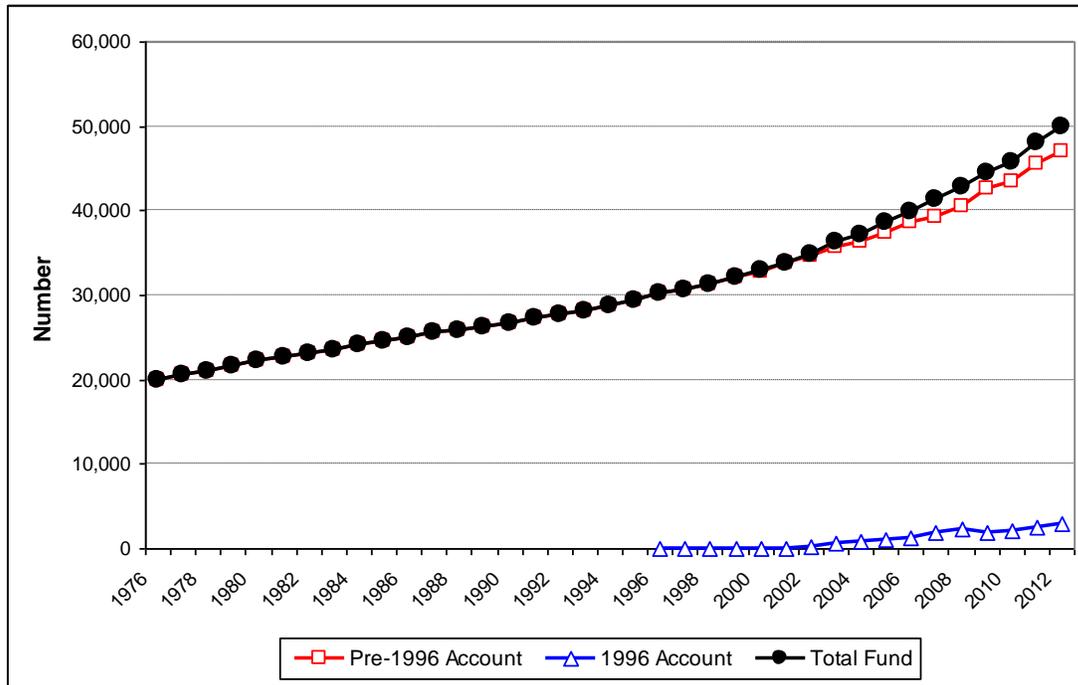
June 30	Accrued Liability	Actuarial Value of Assets	Unfunded Accrued Liability	Funded Percentage
1975	\$ 1,570	\$ 312	\$ 1,258	19.9%
1980	2,843	539	2,304	19.0%
1985	4,023	1,073	2,950	26.7%
1991	7,182	2,161	5,021	30.1%
1992	7,949	2,376	5,573	29.9%
1993	8,508	2,592	5,916	30.5%
1994	9,087	2,809	6,278	30.9%
1995	9,675	2,984	6,691	30.8%
1996	10,283	3,242	7,041	31.5%
1997	10,868	3,678	7,190	33.8%
1998	11,481	4,130	7,351	36.0%
1999	12,173	4,731	7,442	38.9%
2000	12,409	5,210	7,199	42.0%
2001	12,696	5,363	7,333	42.2%
2002	13,498	5,555	7,943	41.2%
2003	13,355	5,728	7,627	42.9%
2004	13,549	5,765	7,784	42.5%
2005	14,254	5,797	8,457	40.7%
2006	15,003	5,478	9,525	36.5%
2007	15,988	5,764	10,224	36.1%
2008	15,792	5,954	9,838	37.7%
2009	16,027	5,109	10,918	31.9%
2010	16,282	5,382	10,900	33.1%
2011	16,318	5,227	11,091	32.0%
2012	16,522	4,978	11,544	30.1%

1996 Account

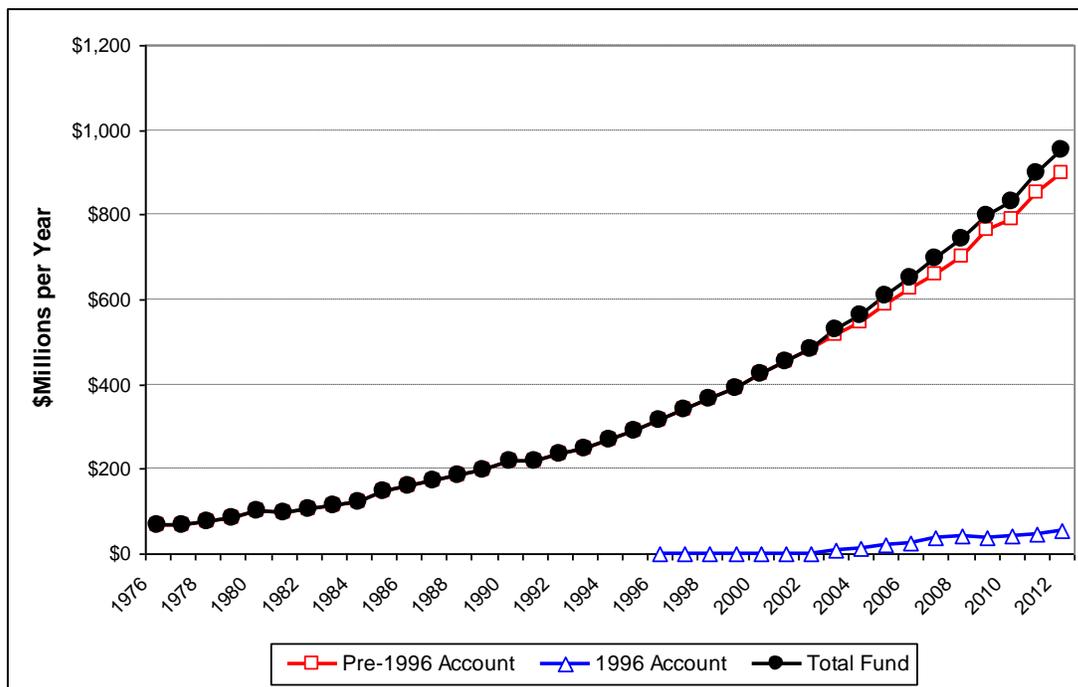
\$Millions

June 30	Accrued Liability	Actuarial Value of Assets	Unfunded Accrued Liability	Funded Percentage
1996	\$ 48	\$ 21	\$ 27	43.8%
1997	176	72	104	40.9%
1998	298	136	162	45.6%
1999	498	240	258	48.2%
2000	706	368	338	52.1%
2001	828	447	381	54.0%
2002	1,167	621	546	53.2%
2003	1,392	826	566	59.3%
2004	1,649	1,039	610	63.0%
2005	2,011	1,268	743	63.1%
2006	2,363	2,209	154	93.5%
2007	2,828	2,713	115	95.9%
2008	2,958	3,080	(122)	104.1%
2009	3,136	2,921	215	93.1%
2010	3,615	3,423	192	94.7%
2011	3,997	3,665	332	91.7%
2012	4,338	3,936	402	90.7%

Retired Members and Beneficiaries Receiving Benefits



Total Retirement Allowances Being Paid



Active Member Data

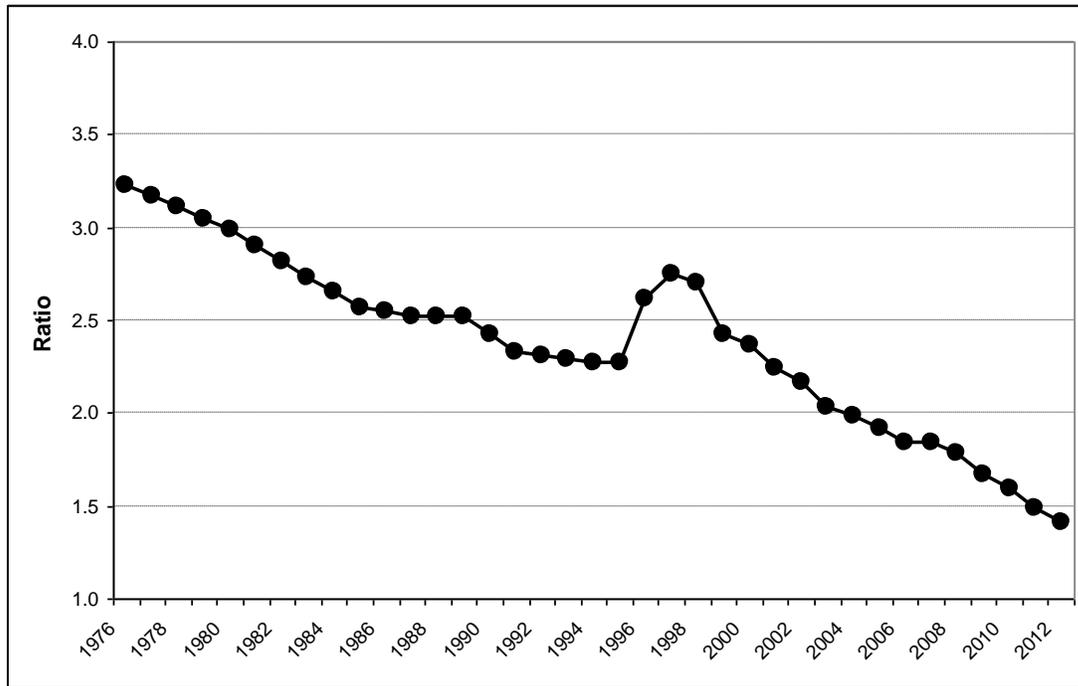
Pre-1996 Account

June 30	Number	Valuation Payroll (\$000s)	Average			
			Age	Service	Pay	Pay Increase %
1975	63,932	\$ 749,200	38.7	10.9	\$ 11,719	
1980	66,575	1,107,699	39.7	11.9	16,638	
1985	62,932	1,519,887	41.5	14.2	24,151	
1987	64,157	1,751,709	42.0	14.5	27,303	
1989	65,986	2,044,797	42.6	14.9	30,988	
1991	63,373	2,278,715	43.0	15.4	35,957	
1992	63,980	2,416,263	43.8	16.0	37,766	5.0%
1993	64,594	2,536,165	44.0	16.1	39,263	4.0
1994	65,209	2,614,915	44.1	16.2	40,101	2.1
1995	66,542	2,728,811	44.2	16.2	41,009	2.3
1996	70,183	2,805,823	44.2	15.7	39,979	(2.5)
1997	63,520	2,739,436	45.4	16.9	43,127	7.9
1998	59,030	2,699,183	46.4	18.0	45,726	6.0
1999	56,560	2,755,489	47.4	19.3	48,718	6.5
2000	52,920	2,561,533	48.2	20.1	48,404	(0.6)
2001	50,802	2,564,451	48.7	20.7	50,479	4.3
2002	47,510	2,604,956	49.4	21.5	54,830	8.6
2003	43,705	2,448,271	49.6	21.7	56,018	2.2
2004	41,510	2,384,480	50.1	22.2	57,444	2.5
2005	39,097	2,305,726	50.6	22.7	58,974	2.7
2006	36,994	2,237,380	51.1	23.2	60,480	2.6
2007	36,526	2,376,390	52.1	23.8	65,060	7.6
2008	34,628	2,295,816	52.5	24.6	66,299	1.9
2009	29,297	2,030,484	53.7	26.0	69,307	4.5
2010	26,439	1,865,102	53.9	26.3	70,544	1.8
2011	24,710	1,762,750	54.5	26.9	71,338	1.1
2012	22,688	1,637,066	54.9	27.4	72,156	1.1

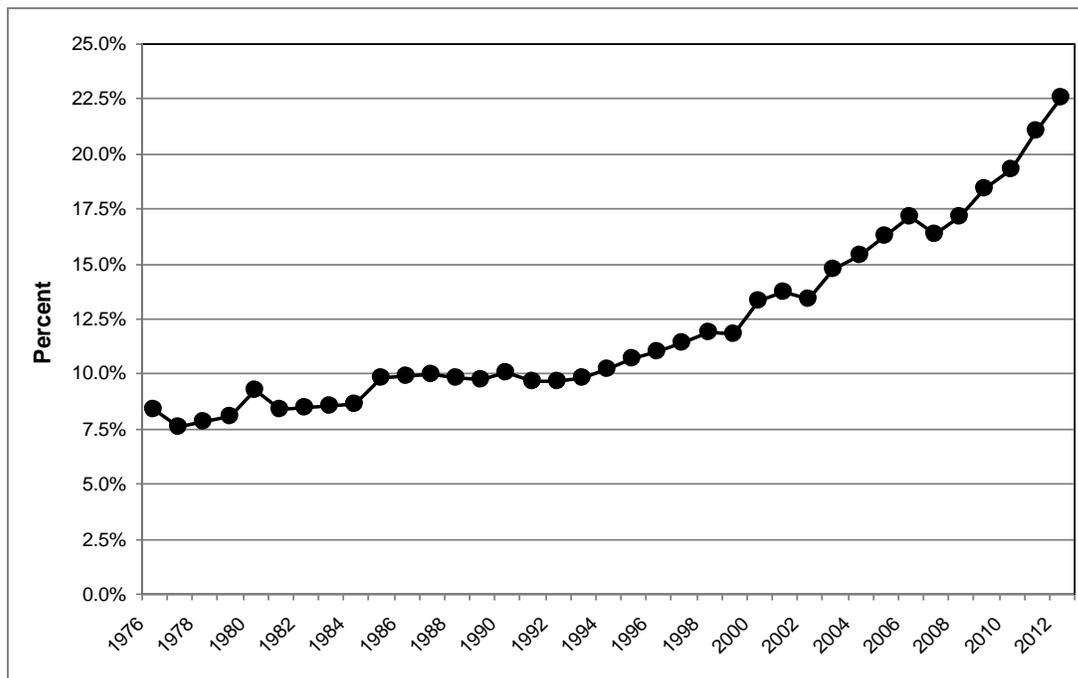
1996 Account

June 30	Number	Valuation Payroll (\$000s)	Average			
			Age	Service	Pay	Pay Increase %
1996	8,683	\$ 72,506	32.2	1.3	\$ 8,350	
1997	20,686	245,168	33.0	1.8	11,852	41.9%
1998	25,634	395,758	33.6	2.2	15,439	30.3
1999	21,185	538,837	35.3	4.0	25,435	64.7
2000	24,950	631,072	36.4	4.7	25,293	(0.6)
2001	24,846	754,426	36.3	5.5	30,364	20.0
2002	27,873	1,004,515	36.7	6.1	36,039	18.7
2003	29,936	1,136,864	37.0	6.5	37,976	5.4
2004	32,000	1,267,173	37.3	6.9	39,599	4.3
2005	34,826	1,428,604	37.5	7.2	41,021	3.6
2006	36,356	1,565,341	37.7	7.5	43,056	5.0
2007	39,307	1,891,605	38.2	7.8	48,124	11.8
2008	41,628	2,052,719	38.1	8.2	49,311	2.5
2009	45,046	2,308,548	38.3	8.4	51,249	3.9
2010	46,433	2,447,509	38.6	8.8	52,711	2.9
2011	46,633	2,507,193	39.2	9.4	53,764	2.0
2012	47,885	2,594,952	39.4	9.8	54,191	0.8

Active Members per Retired Life



Total Retirement Allowances as a Percent of Valuation Payroll



Reconciliation of Market Value of Assets

	<u>6/30/2011 thru 6/30/2012</u>	<u>6/30/2010 thru 6/30/2011</u>
Market Value, beginning of year	\$ 9,121,736,893	\$ 8,140,768,501
Member Contributions	\$ 126,520,317	\$ 126,002,755
Employer Contributions	945,489,915	915,611,470
Benefit Payments	(1,278,173,734)	(1,231,564,054)
Net Transfers	<u>10,544,872</u>	<u>4,369,826</u>
Non-Investment Net Cash Flow	\$ (195,618,630)	\$ (185,580,003)
Plan Expenses	\$ (35,039,000)	\$ (51,073,000)
Investment Return	<u>185,979,962</u>	<u>1,217,621,395</u>
Net Investment Return	\$ 150,940,962	\$ 1,166,548,395
Market Value, end of year	\$ 9,077,059,225	\$ 9,121,736,893
Market Value Net Rate of Return	1.7%	14.5%

Development of the Actuarial Value of Assets*

	<u>6/30/2011 thru 6/30/2012</u>
1. Actuarial Value, beginning of year	\$ 5,797,262,345
2. Market Value, beginning of year	6,026,939,893
3. Market Value, end of year	6,203,644,359
4. Non-Investment Net Cash Flow	55,317,072
5. Net Investment Return	
a. Expected $[(.07 \times ((2)+0.5*(4))]$	423,821,890
b. Actual $[(3) - (2) - (4)]$	<u>121,387,395</u>
6. Current Year Market Value Gain/(Loss) $[(5b) - (5a)]$	\$ (302,434,495)
7. Deferred Recognition of Investment Gain/(Loss)	
a. Fiscal 2012 (75% of (6))	\$ (226,825,871)
b. Fiscal 2011 (50%)	273,187,088
c. Fiscal 2010 (25%)	<u>116,136,434</u>
d. Total $[(a) + (b) + (c)]$	\$ 162,497,651
8. Preliminary Actuarial Value, end of year $[(3) - (7d)]$	6,041,146,708
a. 80% of Market Value, end of year $[80\% \text{ of } (3)]$	4,962,915,487
b. 120% of Market Value, end of year $[120\% \text{ of } (3)]$	7,444,373,231
9. Actuarial Value, end of year $[(8), \text{ but not Greater than } (8b), \text{ nor Less than } (8a)]$	\$ 6,041,146,708
10. Actuarial Value as a % of Market Value $[(9) / (3)]$	97.38061%
11. Net Investment Return on Actuarial Value $[(9) - (1) - (4)]$	\$ 188,567,291
12. Actuarial Value Net Rate of Return $[(11) / ((1) + 0.5*(4))]$	3.24%

* The Actuarial Value of Assets developed here is net of ASA account balances. For ASA account balances, the Actuarial Value of Assets is set equal to the Market Value of Assets.

Accrued Liability Reconciliation¹

	Pre-1996 Account	1996 Account	Total Fund
6/30/2011 Accrued Liability	\$ 14,081,878,140	\$ 3,138,567,715	\$ 17,220,445,855
Normal Cost	92,949,943	146,409,476	239,359,419
Actual Benefit Payments	(929,979,868)	(56,295,967)	(986,275,835)
Transfers	75,406,874	9,483,681	84,890,555
Expected Interest	<u>962,327,911</u>	<u>228,309,973</u>	<u>1,190,637,884</u>
Expected 6/30/2012 Accrued Liability	\$ 14,282,583,000	\$ 3,466,474,878	\$ 17,749,057,878
Sources of Change:			
Experience (Gain) or Loss	(46,791,455)	(24,910,508)	(71,701,963)
Plan Change (Gain) or Loss ²	(60,829,536)	(4,525,677)	(65,355,213)
Assumption Changes ³	372,976,548	1,931,421	374,907,969
Method Change	<u>0</u>	<u>0</u>	<u>0</u>
Actual 6/30/2012 Accrued Liability	\$ 14,547,938,557	\$ 3,438,970,114	\$ 17,986,908,671

¹ Based on pension and ASA annuities only, i.e. net of ASA account balances.

² 13th check to retirees in lieu of the assumed 2013 1.0% COLA.

³ Demographic assumption changes pursuant to the 2012 experience study and change in interest rate to 6.75%.

Asset and Liability Allocation

	Pre-1996 Account			1996 Account		
	Non-Retired	Retired	Total	Non-Retired	Retired	Total
Accrued Liability (AL)						
ASA Balance	\$1,782,353,240	\$ 191,722,722	\$ 1,974,075,962	\$ 882,941,952	\$ 16,396,952	\$ 899,338,904
ASA Annuities	0	1,003,211,894	1,003,211,894	0	65,008,426	65,008,426
Pension: Retirees	0	8,256,856,617	8,256,856,617	0	581,152,801	581,152,801
Pension: Non-Retirees	5,287,870,046	0	5,287,870,046	2,792,808,887	0	2,792,808,887
Total	\$7,070,223,286	\$9,451,791,233	\$16,522,014,519	\$3,675,750,839	\$662,558,179	\$4,338,309,018
Market Assets						
ASA Balance	\$1,782,353,240	\$ 191,722,722	\$ 1,974,075,962	\$ 882,941,952	\$ 16,396,952	\$ 899,338,904
ASA Annuities	0	1,003,211,894	1,003,211,894	0	65,008,426	65,008,426
Pension: Retirees	0	2,081,622,532	2,081,622,532	0	581,152,801	581,152,801
Pension: Non-Retirees	0	0	0	2,472,648,706	0	2,472,648,706
Total	\$1,782,353,240	\$3,276,557,148	\$ 5,058,910,388	\$3,355,590,658	\$662,558,179	\$4,018,148,837
Actuarial Assets						
ASA Balance	\$1,782,353,240	\$ 191,722,722	\$ 1,974,075,962	\$ 882,941,952	\$ 16,396,952	\$ 899,338,904
ASA Annuities	0	1,003,211,894	1,003,211,894	0	65,008,426	65,008,426
Pension: Retirees	0	2,000,818,682	2,000,818,682	0	581,152,801	581,152,801
Pension: Non-Retirees	0	0	0	2,390,954,905	0	2,390,954,905
Total	\$1,782,353,240	\$3,195,753,298	\$ 4,978,106,538	\$3,273,896,857	\$662,558,179	\$3,936,455,036
Unfunded AL						
ASA Balance	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
ASA Annuities	0	0	0	0	0	0
Pension: Retirees	0	6,256,037,935	6,256,037,935	0	0	0
Pension: Non-Retirees	5,287,870,046	0	5,287,870,046	401,853,982	0	401,853,982
Total	\$5,287,870,046	\$6,256,037,935	\$11,543,907,981	\$ 401,853,982	\$ 0	\$ 401,853,982

	Total Fund		
	Non-Retired	Retired	Total
Accrued Liability (AL)			
ASA Balance	\$ 2,665,295,192	\$ 208,119,674	\$ 2,873,414,866
ASA Annuities	0	1,068,220,320	1,068,220,320
Pension: Retirees	0	8,838,009,418	8,838,009,418
Pension: Non-Retirees	8,080,678,933	0	8,080,678,933
Total	\$10,745,974,125	\$10,114,349,412	\$20,860,323,537
Market Assets			
ASA Balance	\$ 2,665,295,192	\$ 208,119,674	\$ 2,873,414,866
ASA Annuities	0	1,068,220,320	1,068,220,320
Pension: Retirees	0	2,662,775,333	2,662,775,333
Pension: Non-Retirees	2,472,648,706	0	2,472,648,706
Total	\$ 5,137,943,898	\$3,939,115,327	\$ 9,077,059,225
Actuarial Assets			
ASA Balance	\$ 2,665,295,192	\$ 208,119,674	\$ 2,873,414,866
ASA Annuities	0	1,068,220,320	1,068,220,320
Pension: Retirees	0	2,581,971,483	2,581,971,483
Pension: Non-Retirees	2,390,954,905	0	2,390,954,905
Total	\$ 5,056,250,097	\$3,858,311,477	\$ 8,914,561,574
Unfunded AL			
ASA Balance	\$ 0	\$ 0	\$ 0
ASA Annuities	0	0	0
Pension: Retirees	0	6,256,037,935	6,256,037,935
Pension: Non-Retirees	5,689,724,028	0	5,689,724,028
Total	\$ 5,689,724,028	\$6,256,037,935	\$11,945,761,963

Solvency Test

\$ Thousands

Year Ended June 30	Accrued Liability				Portion of Accrued Liability Covered by Assets				
	Active Member Contributions	Retirees and Beneficiaries	Active Member (Employer Financed Portion)	Total	Actuarial Value of Assets	Active Member Contribs.	Retirees and Bfcys	Active Member (Employer Financed Portion)	Total
Pre-1996 Account									
2005	\$2,925,367	\$5,653,502	\$5,675,278	\$14,254,147	\$5,796,724	100.0%	50.8%	0.0%	40.7%
2006	\$2,898,891	\$6,238,115	\$5,865,465	\$15,002,471	\$5,477,221	100.0%	41.3%	0.0%	36.5%
2007	\$3,016,052	\$7,063,889	\$5,908,318	\$15,988,259	\$5,763,508	100.0%	38.9%	0.0%	36.1%
2008	\$2,613,138	\$7,244,422	\$5,934,745	\$15,792,305	\$5,953,991	100.0%	46.1%	0.0%	37.7%
2009	\$2,389,886	\$7,891,346	\$5,745,861	\$16,027,093	\$5,109,086	100.0%	34.5%	0.0%	31.9%
2010	\$2,353,715	\$8,153,240	\$5,775,111	\$16,282,066	\$5,382,410	100.0%	37.1%	0.0%	33.1%
2011	\$2,015,580	\$8,776,916	\$5,525,908	\$16,318,404	\$5,227,402	100.0%	36.6%	0.0%	32.0%
2012	\$1,782,353	\$9,451,792	\$5,287,870	\$16,522,015	\$4,978,107	100.0%	33.8%	0.0%	30.1%
1996 Account									
2005	\$535,179	\$219,722	\$1,255,845	\$2,010,746	\$1,268,575	100.0%	100.0%	40.9%	63.1%
2006	\$602,051	\$282,638	\$1,478,412	\$2,363,101	\$2,209,468	100.0%	100.0%	89.6%	93.5%
2007	\$656,918	\$449,452	\$1,721,184	\$2,827,554	\$2,713,051	100.0%	100.0%	93.3%	95.9%
2008	\$649,840	\$514,933	\$1,792,985	\$2,957,758	\$3,080,057	100.0%	100.0%	100.0%	104.1%
2009	\$655,843	\$432,942	\$2,046,748	\$3,135,533	\$2,920,735	100.0%	100.0%	89.5%	93.1%
2010	\$750,575	\$483,117	\$2,380,867	\$3,614,559	\$3,422,554	100.0%	100.0%	91.9%	94.7%
2011	\$840,341	\$562,445	\$2,594,053	\$3,996,839	\$3,664,657	100.0%	100.0%	87.2%	91.7%
2012	\$882,942	\$662,558	\$2,792,809	\$4,338,309	\$3,936,455	100.0%	100.0%	85.6%	90.7%
Total Fund									
2005	\$3,460,546	\$5,873,224	\$6,931,123	\$16,264,893	\$7,065,299	100.0%	61.4%	0.0%	43.4%
2006	\$3,500,942	\$6,520,753	\$7,343,877	\$17,365,572	\$7,686,689	100.0%	64.2%	0.0%	44.3%
2007	\$3,672,970	\$7,513,341	\$7,629,502	\$18,815,813	\$8,476,559	100.0%	63.9%	0.0%	45.1%
2008	\$3,262,978	\$7,759,355	\$7,727,730	\$18,750,063	\$9,034,048	100.0%	74.4%	0.0%	48.2%
2009	\$3,045,729	\$8,324,288	\$7,792,609	\$19,162,626	\$8,029,821	100.0%	59.9%	0.0%	41.9%
2010	\$3,104,290	\$8,636,357	\$8,155,978	\$19,896,625	\$8,804,964	100.0%	66.0%	0.0%	44.3%
2011	\$2,855,921	\$9,339,361	\$8,119,961	\$20,315,243	\$8,892,059	100.0%	64.6%	0.0%	43.8%
2012	\$2,665,295	\$10,114,350	\$8,080,679	\$20,860,324	\$8,914,562	100.0%	61.8%	0.0%	42.7%

Analysis of Financial Experience¹

\$Thousands	Pre-1996 Account	1996 Account	Total Fund
6/30/2011 Unfunded Accrued Liability	\$ 11,091,001	\$ 332,182	\$ 11,423,183
(Gain) / Loss:			
Actuarial Value of Assets	\$ 111,026	\$ 108,152	\$ 219,178
Actuarial Accrued Liabilities	(46,791)	(24,911)	(71,702)
Amortization of Existing Bases	76,526	(10,975)	65,551
Plan Provision Changes ²	(60,830)	(4,526)	(65,356)
Actuarial Assumption/Method Changes ³	<u>372,976</u>	<u>1,932</u>	<u>374,908</u>
Net Change	\$ 452,907	\$ 69,672	\$ 522,579
6/30/2012 Unfunded Accrued Liability	\$ 11,543,908	\$ 401,854	\$ 11,945,762

¹ Based on pension and ASA annuities only, i.e. net of ASA account balances.

² 13th check to retirees in lieu of the assumed 2013 1.0% COLA.

³ Demographic assumption changes pursuant to the 2012 experience study and change in interest rate to 6.75%.

Calculated Employer Contribution Rate

1996 Account

	6/30/2012	% of Projected Payroll for Fiscal 2013
Normal Cost	\$ 147,336,605	5.68%
Amortization of Unfunded Accrued Liability		
Unfunded Accrued Liability (UAL)*	\$ 401,853,982	
Unamortized UAL from Prior Years	<u>328,310,945</u>	
Net Unamortized UAL	\$ 73,543,037	
Amortization Factor (30-years, level dollar)	13.5862	
Current Year Amortization Payment	\$ 5,413,069	
Payments Established in Prior Years	<u>24,801,298</u>	
Total Amortization Payments	\$ 30,214,367	1.16%
Calculated Employer Contribution Rate	\$ 177,550,972	6.84%
Projected Fiscal 2014 Payroll	\$ 2,854,400,000	
Projected Fiscal 2014 Contribution	\$ 195,240,960	

Pre-1996 Account

	Fiscal 2013	Fiscal 2014
Expected Pension Benefit Payments	\$ 866,600,000	\$ 885,000,000
Expected Pension Contributions	\$ 1,012,900,000	\$ 809,200,000

The Pre-1996 Account is funded on a pay-as-you-go basis. The figures shown above reflect the expected defined benefit pension payments (excluding ASA annuities) and contributions to be made during fiscal year 2013 and fiscal year 2014.

The calculation of the Annual Required Contribution (ARC) included in the GASB section is shown below.

Fiscal 2014 Annual Required Contribution (ARC)

Normal Cost	\$ 81,343,107
Amortization of Unfunded Accrued Liability	
Unfunded Accrued Liability (UAL)*	\$ 11,543,907,981
Unamortized UAL from Prior Years	<u>10,954,190,964</u>
Net Unamortized UAL	\$ 589,717,017
Amortization Factor (30-years, level dollar)	13.5862
Current Year Amortization Payment	\$ 43,405,589
Payments Established in Prior Years	<u>835,305,938</u>
Total Amortization Payments	\$ 878,711,527
6/30/2012 Annual Required Contribution (ARC)	\$ 960,054,634
ARC as Percent of Payroll	58.64%
Projected Fiscal 2014 Payroll	\$ 1,499,100,000
Projected Fiscal 2014 ARC	\$ 879,072,240

* Pension and ASA annuity only

GASB Statements No. 25 and No. 27

Required Supplementary Information

Under the Governmental Accounting Standards Board (GASB) Statements No. 25 and No. 27, certain information about the plan is required to be disclosed. The information presented in the required supplementary schedules was determined as part of the actuarial valuations at the dates indicated. Additional information as of the latest actuarial valuation follows:

Valuation Date	June 30, 2012
Actuarial Cost Method	Entry Age Normal (Level Percent of Pay)
Amortization Method	Level Dollar
Amortization Period	30 Years, Closed
Asset Valuation Method	4-Year Smoothed Market Value with 20% Corridor
Actuarial Assumptions:	
Investment Rate of Return	6.75%
Projected Pay Increases	3.00 – 12.50% (includes 3.00% wage inflation)
Cost-of-Living Adjustments	1.0% Compounded Annually on Pension Portion

Membership in the plan consisted of the following at June 30, 2012, the date of the latest actuarial valuation:

	<u>2012</u>
Retired Members and Beneficiaries Receiving Benefits	49,971
Inactive Members Entitled to but Not Yet Receiving Benefits	
Vested	6,367
Nonvested	13,322
Active Members	<u>70,573</u>
Total	140,233

GASB Statements No. 25 and No. 27

Required Supplementary Information

Schedule of Funding Progress

Valuation Date June 30	Actuarial Value of Assets (a)	Entry Age Accrued Liability (b)	Unfunded Accrued Liability (UAL) (b) - (a)	Funded Ratio (a) / (b)	Covered Payroll (c)	UAL as a % of Covered Payroll [(b) - (a)] / (c)
1996	\$ 3,262,619,379	\$ 10,330,788,316	\$ 7,068,168,937	31.6%	\$ 2,878,329,486	245.6%
1997	3,750,138,439	11,044,660,156	7,294,521,717	34.0	2,984,603,913	244.4
1998	4,266,312,063	11,780,174,095	7,513,862,032	36.2	3,094,940,606	242.8
1999	4,970,720,334	12,670,924,443	7,700,204,109	39.2	3,294,326,130	233.7
2000	5,578,046,785	13,115,065,443	7,537,018,658	42.5	3,192,604,492	236.1
2001	5,810,759,564	13,523,825,973	7,713,066,409	43.0	3,318,877,027	232.4
2002	6,176,574,529	14,664,661,236	8,488,086,707	42.1	3,609,470,436	235.2
2003	6,554,364,927	14,747,339,056	8,192,974,129	44.4	3,585,134,913	228.5
2004	6,804,394,627	15,197,925,988	8,393,531,361	44.8	3,651,653,125	229.9
2005	7,065,299,476	16,264,893,444	9,199,593,968	43.4	3,734,329,113	246.4
2006	7,686,688,965	17,365,572,132	9,678,883,167	44.3	3,802,721,221	254.5
2007	8,476,559,086	18,815,812,935	10,339,253,849	45.1	4,267,995,166	242.3
2008	9,034,047,394	18,750,062,742	9,716,015,348	48.2	4,348,535,867	223.4
2009	8,029,820,891	19,162,625,560	11,132,804,669	41.9	4,339,032,221	256.6
2010	8,804,963,622	19,896,625,065	11,091,661,443	44.3	4,312,610,704	257.2
2011	8,892,059,345	20,315,242,855	11,423,183,510	43.8	4,269,943,587	267.5
2012	8,914,561,574	20,860,323,537	11,945,761,963	42.7	4,232,018,389	282.3

Schedule of Employer Contributions

Fiscal Year Ending	Valuation Date June 30	Annual Required Contribution	Actual Employer Contribution	Percentage Contributed
1998	1996	\$ 508,940,065	\$ 465,350,488	91.4%
1999	1997	508,259,679	612,349,218	120.5
2000	1998	524,815,537	647,441,260	123.4
2001	1999	547,532,673	689,219,756	125.9
2002	2000	537,789,669	566,226,658	105.3
2003	2001	572,226,197	602,231,775	105.2
2004	2002	638,541,074	438,180,343	68.6
2005	2003	619,186,005	484,778,888	78.3
2006	2004	672,555,533	701,340,085	104.3
2007	2005	742,882,002	753,039,657	101.4
2008	2006	800,059,308	808,128,686	101.0
2009	2007	819,638,258	853,790,969	104.2
2010	2008	952,120,349	885,639,968	93.0
2011	2009	1,048,649,181	915,611,470	87.3
2012	2010	1,039,857,902	945,489,915	90.9
2013	2011	1,062,667,210		
2014	2012	1,074,313,200		

GASB Statements No. 25 and No. 27

Development of the Net Pension Obligation (NPO)

Pre-1996 Account

\$000's	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Fiscal Year	ARC	Interest on NPO	ARC Adjustment (8) / (4)	Amortization Factor	Net Cost (1) + (2) - (3)	Actual Employer Contribution	Change in NPO (5) - (6)	NPO at BOY	NPO at EOY (7) + (8)
1988	\$ 214,776	\$ 0	\$ 0	12.5944	\$ 214,776	\$ 149,987	\$ 64,789	\$ 0	\$ 64,789
1989	236,695	4,859	5,144	12.5944	236,410	162,431	73,979	64,789	138,768
1990	236,695	10,408	11,018	12.5944	236,084	201,260	34,824	138,768	173,592
1991	319,429	13,019	13,783	12.5944	318,665	241,400	77,265	173,592	250,857
1992	357,575	18,814	19,918	12.5944	356,471	206,626	149,845	250,857	400,703
1993	394,291	30,053	31,816	12.5944	392,528	204,081	188,447	400,703	589,149
1994	416,022	44,186	46,779	12.5944	413,430	230,795	182,635	589,149	771,784
1995	436,399	57,884	61,280	12.5944	433,003	239,177	193,826	771,784	965,610
1996	456,847	72,421	76,670	12.5944	452,598	307,337	145,261	965,610	1,110,871
1997	481,927	83,315	88,204	12.5944	477,039	519,844	(42,805)	1,110,871	1,068,065
1998	502,040	80,105	84,805	12.5944	497,340	436,138	61,202	1,068,065	1,129,268
1999	484,671	84,695	89,664	12.5944	479,702	571,157	(91,455)	1,129,268	1,037,812
2000	486,946	77,836	82,403	12.5944	482,379	593,045	(110,666)	1,037,812	927,147
2001	494,779	69,536	73,616	12.5944	490,699	623,982	(133,283)	927,147	793,864
2002	474,274	59,540	63,312	12.5390	470,502	482,681	(12,179)	793,864	781,685
2003	496,034	58,626	62,638	12.4794	492,022	508,148	(16,126)	781,685	765,559
2004	532,326	57,417	61,662	12.4154	528,081	357,799	170,282	765,559	935,841
2005	516,267	70,188	75,798	12.3465	510,657	394,387	116,270	935,841	1,052,111
2006	556,460	78,908	89,083	11.8104	546,285	601,259	(54,974)	1,052,111	997,137
2007	602,904	74,785	85,253	11.6962	592,436	636,039	(43,603)	997,137	953,534
2008	678,050	71,515	82,390	11.5734	667,175	675,682	(8,507)	953,534	945,027
2009	700,307	70,877	80,017	11.8104	691,168	706,366	(15,198)	945,027	929,829
2010	850,493	69,737	78,730	11.8104	841,500	727,766	113,734	929,829	1,043,563
2011	894,507	73,049	84,097	12.4090	883,459	748,978	134,481	1,043,563	1,178,044
2012	866,207	82,463	94,935	12.4090	853,735	764,423	89,312	1,178,044	1,267,356

1996 Account

\$000's	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Fiscal Year	ARC	Interest on NPO	ARC Adjustment (8) / (4)	Amortization Factor	Net Cost (1) + (2) - (3)	Actual Employer Contribution	Change in NPO (5) - (6)	NPO at BOY	NPO at EOY (7) + (8)
1998	\$ 6,900	\$ 0	\$ 0	12.5944	\$ 6,900	\$ 29,212	\$ (22,312)	\$ 0	\$ (22,312)
1999	23,589	(1,673)	(1,772)	12.5944	23,688	41,192	(17,504)	(22,312)	(39,816)
2000	37,870	(2,986)	(3,161)	12.5944	38,045	54,396	(16,351)	(39,816)	(56,167)
2001	52,754	(4,213)	(4,460)	12.5944	53,001	65,238	(12,237)	(56,167)	(68,404)
2002	63,516	(5,130)	(5,455)	12.5390	63,841	83,546	(19,705)	(68,404)	(88,109)
2003	76,192	(6,608)	(7,060)	12.4794	76,644	94,083	(17,439)	(88,109)	(105,548)
2004	106,215	(7,916)	(8,501)	12.4154	106,800	80,381	26,419	(105,548)	(79,129)
2005	102,919	(5,935)	(6,409)	12.3465	103,393	90,392	13,001	(79,129)	(66,128)
2006	116,096	(4,960)	(5,599)	11.8104	116,735	100,081	16,654	(66,128)	(49,474)
2007	139,978	(3,711)	(4,230)	11.6962	140,497	117,001	23,496	(49,474)	(25,978)
2008	122,009	(1,948)	(2,245)	11.5734	122,306	132,447	(10,141)	(25,978)	(36,119)
2009	119,331	(2,709)	(3,058)	11.8104	119,680	147,425	(27,745)	(36,119)	(63,864)
2010	101,627	(4,790)	(5,407)	11.8104	102,244	157,874	(55,630)	(63,864)	(119,494)
2011	154,142	(8,365)	(9,630)	12.4090	155,407	166,633	(11,226)	(119,494)	(130,720)
2012	173,651	(9,150)	(10,534)	12.4090	175,035	181,067	(6,032)	(130,720)	(136,752)

ARC = Annual Required Contribution
 BOY = Beginning of Year
 EOY = End of Year

Additional Information:

Annual actuarial valuation reports not issued for FY1988 & FY1990 – valuations conducted bi-annually prior to FY1991.
 Assumed 40-year amortization period for FY1988 – FY1997 since annual actuarial valuation reports were not retained prior to FY1998.

GASB Statements No. 25 and No. 27

Statement of Net Position

Assets

Cash	\$ 11,357,769
Securities Lending Collateral	280,013,366
Repurchase Agreements	0
Receivables:	
Contributions Receivable	\$ 56,239,043
Miscellaneous Receivable	408,060
Investments Receivable	0
Interest and Dividends	0
Due From Other Funds	<u>2,397,915</u>
Total Receivables	\$ 59,045,018
Investments:	
Short Term Investments	\$ 0
Fixed Income	0
Equities	0
Other Investments*	<u>9,010,433,567</u>
Total Investments	\$ 9,010,433,567
Other Assets	\$ 0
Gross Capitalized Assets	\$ 2,886,089
Less: Accumulated Depreciation and Amortization	<u>(1,022,039)</u>
Net Capitalized Assets	\$ 1,864,050
Total Assets	\$ 9,362,713,770

Liabilities

Accounts Payable	\$ 1,066,015
Retirement Benefits Payable	238,828
Salaries and Benefits Payable	0
Investments Payable	9,740
Securities Lending Obligations	280,013,366
Securities Sold Under Agreement to Repurchase	0
Due to Other Funds	<u>4,326,596</u>
Total Liabilities	\$ 285,654,545

Net Assets Held in Trust for Pension Benefits **\$ 9,077,059,225**

** The majority of the investments of INPRS are in unitized pools, and each fund (e.g., TRF) owns shares of these unitized pools, not specific assets. The unitized investments allocated to TRF are reflected on the Other Investments line.*

GASB Statements No. 25 and No. 27

Statement of Changes in Net Position

Additions

Contributions:

Member Contributions	\$ 129,961,580
Employer Contributions	915,489,915
Other Contributions	<u>30,000,000</u>
Total Contributions	\$ 1,075,451,495

Investment Income:

Net Appreciation / (Depreciation) Fair Value of Investments	\$ (42,860,177)
Other Net Investment Income	50,842,328
Net Interest and Dividends Income	176,625,718
Securities Lending Income	<u>2,478,569</u>
Total Net Investment Income	\$ 187,086,438

Less Direct Investment Expenses:

Investment Management Fees	(18,095,586)
Securities Lending Fees	(352,612)
Direct Investment Expenses	<u>(2,636,238)</u>
Net Investment Income / (Loss)	\$ 166,002,002

Other Additions:

Miscellaneous Income	\$ 0
Interfund Transfers	<u>9,304,150</u>
Total Other Additions	\$ 9,304,150

Total Additions **\$ 1,250,757,647**

Deductions

Pension and Disability Benefits	\$ 1,256,937,987
Special Death Benefits	0
Distributions of Contributions and Interest	21,235,749
Pension Relief Distributions	0
Local Unit Withdrawals	0
Administrative Expenses	10,931,369
Project Expenses	3,022,575
Interfund Transfers	<u>3,307,935</u>
Total Deductions	<u>\$ 1,295,435,615</u>

Net Increase / (Decrease) **\$ (44,677,968)**

Beginning Net Assets Held in Trust for Pension Benefits \$ 9,121,737,193

Ending Net Assets Held in Trust for Pension Benefits **\$ 9,077,059,225**

Member Data

The tables below summarize the member data used in the valuation. The pages that follow show various distributions of the member groups.

Pre-1996 Account

	Males	Females	Total
Number of Actives	5,876	16,812	22,688
- Average Age	55.1	54.8	54.9
- Average Service	28.7	26.9	27.4
- Average Pay	\$ 77,099	\$ 70,428	\$ 72,156
Number of Inactive Vesteds	787	2,595	3,382
- Average Age	57.9	57.4	57.5
- Average Service	21.2	19.3	19.7
Number of Inactive Nonvesteds	128	666	794
Number of Retirees and Beneficiaries	16,125	30,875	47,000
- Average Age	72.1	72.4	72.3
- Average Years Retired	12.7	12.8	12.8
- Average Monthly Annuity	\$ 219	\$ 170	\$ 187
- Average Monthly Pension	\$ 1,576	\$ 1,316	\$ 1,405
Total Number of Members	22,916	50,948	73,864

1996 Account

	Males	Females	Total
Number of Actives	12,880	35,005	47,885
- Average Age	39.3	39.5	39.4
- Average Service	10.3	9.6	9.8
- Average Pay	\$ 59,401	\$ 52,274	\$ 54,191
Number of Inactive Vesteds	738	2,247	2,985
- Average Age	49.2	50.6	50.2
- Average Service	15.6	14.5	14.8
Number of Inactive Nonvesteds	2,754	9,774	12,528
Number of Retirees and Beneficiaries	1,114	1,857	2,971
- Average Age	66.2	66.3	66.2
- Average Years Retired	6.8	6.1	6.4
- Average Monthly Annuity	\$ 204	\$ 142	\$ 165
- Average Monthly Pension	\$ 1,696	\$ 1,208	\$ 1,391
Total Number of Members	17,486	48,883	66,369

Total Fund

	Males	Females	Total
Number of Actives	18,756	51,817	70,573
- Average Age	44.2	44.5	44.4
- Average Service	16.1	15.2	15.4
- Average Pay	\$ 64,946	\$ 58,164	\$ 59,967
Number of Inactive Vesteds	1,525	4,842	6,367
- Average Age	53.7	54.2	54.1
- Average Service	18.5	17.1	17.4
Number of Inactive Nonvesteds	2,882	10,440	13,322
Number of Retirees and Beneficiaries	17,239	32,732	49,971
- Average Age	71.7	72.1	72.0
- Average Years Retired	12.3	12.5	12.4
- Average Monthly Annuity	\$ 218	\$ 169	\$ 186
- Average Monthly Pension	\$ 1,583	\$ 1,310	\$ 1,404
Total Number of Members	40,402	99,831	140,233

Active Members: Pre-1996 Account

By Attained Age and Years of Service

Attained Age	Years of Service to Valuation Date							Total
	0-4	5-9	10-14	15-19	20-24	25-29	30+	
15-19	-	-	-	-	-	-	-	-
20-24	-	-	-	-	-	-	-	-
25-29	-	-	-	-	-	-	-	-
30-34	1	-	-	-	-	-	-	1
35-39	10	4	4	47	-	-	-	65
40-44	67	82	101	1,303	550	-	-	2,103
45-49	45	70	82	516	1,710	768	-	3,191
50-54	25	41	46	386	910	2,345	711	4,464
55-59	22	33	40	376	909	1,161	3,765	6,306
60-64	27	17	31	260	661	824	3,492	5,312
65-69	16	12	17	40	111	149	764	1,109
70-74	1	3	1	8	11	13	78	115
75-79	1	5	1	2	-	1	7	17
80 & Over	-	-	2	1	-	-	2	5
Total	215	267	325	2,939	4,862	5,261	8,819	22,688

Average Age: 54.9
Average Service: 27.4

Active Members: 1996 Account

By Attained Age and Years of Service

Attained Age	Years of Service to Valuation Date							Total
	0-4	5-9	10-14	15-19	20-24	25-29	30+	
15-19	-	-	-	-	-	-	-	-
20-24	1,052	-	-	-	-	-	-	1,052
25-29	5,419	2,199	-	-	-	-	-	7,618
30-34	1,911	6,157	1,725	1	-	-	-	9,794
35-39	1,015	2,149	4,738	1,055	-	-	-	8,957
40-44	844	1,439	1,962	2,446	239	1	-	6,931
45-49	568	961	1,225	926	625	140	2	4,447
50-54	400	695	1,021	808	363	384	95	3,766
55-59	240	408	715	721	320	224	325	2,953
60-64	147	215	435	486	239	131	217	1,870
65-69	48	51	115	78	54	18	38	402
70-74	21	14	14	7	2	1	1	60
75-79	14	5	7	3	-	-	-	29
80 & Over	3	2	1	-	-	-	-	6
Total	11,682	14,295	11,958	6,531	1,842	899	678	47,885

Average Age: 39.4
Average Service: 9.8

Inactive Vested Members: Pre-1996 Account

By Attained Age and Years of Service

Attained Age	Years of Service at Termination							Total
	0-4	5-9	10-14	15-19	20-24	25-29	30+	
35-39	-	-	7	-	-	-	-	7
40-44	-	-	100	75	15	-	-	190
45-49	-	-	202	113	84	14	-	413
50-54	-	-	182	154	120	103	19	578
55-59	-	-	258	217	158	120	152	905
60-64	-	-	364	129	116	62	218	889
65-69	-	-	97	25	37	26	87	272
70-74	-	-	5	5	3	2	17	32
75-79	-	-	5	-	1	1	1	8
80 & Over	-	-	62	19	4	-	3	88
Total	-	-	1,282	737	538	328	497	3,382

Average Age: 57.5
Average Service: 19.7

Inactive Vested Members: 1996 Account

By Attained Age and Years of Service

Attained Age	Years of Service at Termination							Total
	0-4	5-9	10-14	15-19	20-24	25-29	30+	
20-24	-	-	1	-	-	-	-	1
25-29	-	-	-	-	-	-	-	-
30-34	-	-	37	-	-	-	-	37
35-39	-	-	365	32	-	-	-	397
40-44	-	-	368	144	5	-	-	517
45-49	-	-	242	122	55	4	1	424
50-54	-	-	267	131	71	33	7	509
55-59	-	-	277	160	80	34	20	571
60-64	-	-	234	96	39	21	16	406
65-69	-	-	64	26	14	3	7	114
70-74	-	-	5	1	-	1	-	7
75-79	-	-	2	-	-	-	-	2
80 & Over	-	-	-	-	-	-	-	-
Total	-	-	1,862	712	264	96	51	2,985

Average Age: 50.2
Average Service: 14.8

Retired Members: Pre-1996 Account

By Attained Age and Completed Years of Retirement

Attained Age	Years of Retirement							Total
	0-4	5-9	10-14	15-19	20-24	25-29	30+	
Under 40	16	46	23	10	3	3	1	102
40-44	5	16	2	9	2	-	-	34
45-49	10	11	18	9	4	1	-	53
50-54	53	25	24	22	12	2	2	140
55-59	1,308	149	61	31	15	8	4	1,576
60-64	4,628	3,116	251	83	44	26	10	8,158
65-69	3,212	4,786	2,957	276	86	34	11	11,362
70-74	558	2,115	3,433	1,929	275	61	24	8,395
75-79	26	364	1,711	2,701	1,063	270	53	6,188
80-84	11	32	315	1,657	2,189	693	263	5,160
85-89	7	9	41	207	1,245	1,372	512	3,393
90-94	5	1	8	25	130	720	804	1,693
95-99	2	-	2	3	3	65	551	626
100 & Over	2	1	-	-	-	1	116	120
Total	9,843	10,671	8,846	6,962	5,071	3,256	2,351	47,000

Average Age: 72.3
Average Years Retired: 12.8

Retired Members: 1996 Account

By Attained Age and Completed Years of Retirement

Attained Age	Years of Retirement							Total
	0-4	5-9	10-14	15-19	20-24	25-29	30+	
Under 40	3	5	-	-	-	-	-	8
40-44	2	5	1	-	-	-	-	8
45-49	6	6	4	-	-	-	-	16
50-54	32	7	4	-	1	-	-	44
55-59	177	29	6	-	-	-	-	212
60-64	562	276	31	5	1	-	-	875
65-69	474	341	207	9	-	-	-	1,031
70-74	76	205	174	47	2	-	-	504
75-79	12	40	54	56	10	3	-	175
80-84	3	6	11	28	22	3	1	74
85-89	1	1	4	-	11	2	-	19
90 & Over	-	-	-	-	2	1	2	5
Total	1,348	921	496	145	49	9	3	2,971

Average Age: 66.2
Average Years Retired: 6.4

Retired Members: Pre-1996 Account

By Year of Retirement

Year of Retirement As of June 30	Number	Monthly Pension	
		Total	Average
Before 1978	744	\$ 338,152	\$ 455
1978	203	112,187	553
1979	250	142,195	569
1980	305	192,308	631
1981	315	188,416	598
1982	321	197,138	614
1983	409	263,004	643
1984	481	315,906	657
1985	698	500,433	717
1986	605	448,347	741
1987	742	586,329	790
1988	853	718,644	842
1989	704	622,943	885
1990	1,092	1,104,149	1,011
1991	1,095	1,204,580	1,100
1992	1,004	1,131,882	1,127
1993	1,066	1,283,435	1,204
1994	1,188	1,469,579	1,237
1995	1,540	1,972,203	1,281
1996	1,528	1,997,827	1,307
1997	1,332	1,736,156	1,303
1998	1,682	2,175,588	1,293
1999	1,563	2,140,356	1,369
2000	1,815	2,573,823	1,418
2001	1,802	2,624,776	1,457
2002	2,101	3,053,109	1,453
2003	1,859	2,769,352	1,490
2004	2,166	3,260,699	1,505
2005	2,069	3,269,441	1,580
2006	2,245	3,678,526	1,639
2007	2,137	3,527,412	1,651
2008	2,553	4,392,562	1,721
2009	1,867	3,343,159	1,791
2010	2,096	3,898,468	1,860
2011	2,817	5,409,332	1,920
2012	1,753	3,399,214	1,939
Total	47,000	\$ 66,041,630	\$ 1,405

Retired Members: 1996 Account

By Year of Retirement

Year of Retirement As of June 30	Number	Monthly Pension	
		Total	Average
1977	1	\$ 287	\$ 287
1981	1	259	259
1982	1	936	936
1986	2	1,562	781
1987	5	3,335	667
1988	4	2,621	655
1989	5	3,767	753
1990	11	10,280	935
1991	13	11,986	922
1992	12	13,567	1,131
1993	8	7,935	992
1994	17	21,906	1,289
1995	26	30,571	1,176
1996	33	41,793	1,266
1997	31	37,859	1,221
1998	45	53,421	1,187
1999	51	66,913	1,312
2000	81	102,585	1,266
2001	106	139,624	1,317
2002	140	200,632	1,433
2003	168	229,301	1,365
2004	195	263,029	1,349
2005	169	245,937	1,455
2006	172	237,713	1,382
2007	196	254,452	1,298
2008	253	363,845	1,438
2009	235	338,838	1,442
2010	282	403,596	1,431
2011	406	599,761	1,477
2012	302	444,159	1,471
Total	2,971	\$ 4,132,470	\$ 1,391

Retired Members

Reconciliation of Benefit Recipients, July 1, 2011 to July 1, 2012

Pre-1996 Account

	Number of Members	Sum of Annual Allowances*
Beginning of Year Rolls	45,421	\$ 850,711,104
Added to Rolls	2,541	63,922,594
Removed from Rolls	(962)	(12,215,851)
Benefit Changes		(4,412,187)
End of Year Rolls	47,000	\$ 898,005,660
Percentage Increase in Annual Allowances		5.56%
Average Annual Allowances		\$ 19,107

1996 Account

	Number of Members	Sum of Annual Allowances*
Beginning of Year Rolls	2,554	\$ 47,886,672
Added to Rolls	433	8,131,748
Removed from Rolls	(16)	(236,302)
Benefit Changes		(307,450)
End of Year Rolls	2,971	\$ 55,474,668
Percentage Increase in Annual Allowances		15.85%
Average Annual Allowances		\$ 18,672

* Pension and ASA annuity

Retired Members

Number of Benefit Recipients by Benefit Option

Pre-1996 Account

Amount of Monthly Benefit ¹	Option A-1	Option A-2	Option A-3	Option B-1	Option B-2	Option B-3	Survivors	Disability	Total
\$1-\$500	1,818	867	218	1,098	246	443	485	87	5,262
\$501-\$1,000	2,172	1,447	320	1,941	696	900	345	181	8,002
\$1,001-\$1,500	3,106	2,358	435	3,816	1,141	1,259	151	221	12,487
\$1,501-\$2,000	2,875	2,608	343	3,906	1,304	1,508	131	106	12,781
\$2,001-\$3,000	1,792	1,887	228	2,000	797	924	38	21	7,687
Over \$3,000	181	204	19	188	87	91	11	0	781
Total	11,944	9,371	1,563	12,949	4,271	5,125	1,161	616	47,000

1996 Account

Amount of Monthly Benefit ¹	Option A-1	Option A-2	Option A-3	Option B-1	Option B-2	Option B-3	Survivors	Disability	Total
\$1-\$500	147	85	16	101	16	23	23	50	461
\$501-\$1,000	193	152	39	181	31	60	20	41	717
\$1,001-\$1,500	171	124	29	162	45	52	3	11	597
\$1,501-\$2,000	132	102	21	153	46	69	4	5	532
\$2,001-\$3,000	99	98	19	181	45	76	3	5	526
Over \$3,000	31	33	1	43	13	16	1	0	138
Total	773	594	125	821	196	296	54	112	2,971

¹Pension only

Summary of Benefit Options

- A-1 - Provides a monthly benefit for retiree's life. In the event the retiree dies before receiving five years of payments, the beneficiary receives the remainder of the five years (60 months) of guaranteed Defined Benefit pension payments in a lump sum.
- A-2 - Provides a monthly benefit for retiree's life. The benefit ceases upon the death of the retiree.
- A-3 - Provides a monthly benefit for retiree's life, including monthly annuitization of member's Annuity Savings Account (ASA). In the event the retiree dies before receiving five years of payments, the beneficiary will receive the remainder of the five years of guaranteed pension payments. The ASA is reduced with each monthly benefit paid; if the retiree dies before reducing the balance to \$0.00, the beneficiary will receive a single payment of the amount remaining.
- B-1 - Provides a monthly benefit for retiree's life. Upon the death of the retiree, the qualified designated survivor receives 100% of the member's Defined Benefit for the remainder of the survivor's life.
- B-2 - Provides a monthly benefit for retiree's life. Upon the death of the retiree, the qualified designated survivor receives 66-2/3% of the member's Defined Benefit for the remainder of the survivor's life.
- B-3 - Provides a monthly benefit for retiree's life. Upon the death of the retiree, the qualified designated survivor receives 50% of the member's Defined Benefit for the remainder of the survivor's life.
- Survivors* - Provides a monthly benefit for the surviving spouse's or dependent's life. The benefit ceases upon death of the survivor.
- Disability** - Available to members with five (5) or more years of creditable service who become disabled as determined by the Social Security Administration while teaching in Indiana.

* (of members who die while in service)

** Includes Classroom Disability – Provides a benefit of \$125 per month plus \$5 for each additional year of TRF-covered service over five years

Retired Members

Schedule of Average Benefit Payments by Service at Retirement

Pre-1996 Account

	Years of Service at Retirement						Total
	<10	10-14	15-19	20-24	25-29	30+	
Avg. Monthly Defined Benefit Pension	\$311	\$252	\$503	\$804	\$1,150	\$1,747	\$1,405
Avg. Monthly Annuity	\$14	\$101	\$101	\$126	\$156	\$222	\$187
Avg. Final Avg. Salary at Retirement	\$23,116	\$21,575	\$34,714	\$41,788	\$47,172	\$54,014	\$49,136
Number of Benefit Recipients	39	1,178	3,719	5,366	7,672	29,026	47,000

1996 Account

	Years of Service at Retirement						Total
	<10	10-14	15-19	20-24	25-29	30+	
Avg. Monthly Defined Benefit Pension	\$274	\$444	\$682	\$995	\$1,401	\$2,124	\$1,391
Avg. Monthly Annuity	\$29	\$72	\$97	\$125	\$207	\$223	\$165
Avg. Final Avg. Salary at Retirement	\$39,141	\$43,284	\$48,634	\$55,970	\$60,295	\$69,381	\$59,171
Number of Benefit Recipients	33	308	577	411	420	1,222	2,971

Reconciliation of Participant Data: Total Fund

	Active	Inactive Vested	Inactive Nonvested	Survivor	Disabled	Retired	Beneficiary	Total
6/30/2011 Valuation	71,343	6,636	27,168	1,222	709	42,660	3,384	153,122
Disabled	(23)	(19)			42			0
Retired	(1,740)	(1,125)				2,865		0
Terminated with Vested Benefit	(1,227)	1,227						0
Terminated, due a Refund	(2,298)		2,298					0
Died with Survivor	(19)	(19)		29	(11)	(278)	298	0
Died, no Survivor*	(6)	(4)		(33)	(15)	(734)	(160)	(952)
Refunded*	(248)	(95)	(6,615)					(6,958)
Forfeited*		(6)	(8,955)					(8,961)
Dropped from Data	(5)	(46)	(13)	(4)	(1)	(22)	(9)	(100)
Rehired	1,127	(251)	(876)					0
Status Corrections		64	(68)		1	3		0
Data Corrections		5	383	1		7	17	413
New Hires	3,669							3,669
6/30/2012 Valuation	70,573	6,367	13,322	1,215	725	44,501	3,530	140,233

* No remaining benefit obligation in the plan.

Reconciliation of Participant Data: Pre-1996 Account

	Active	Inactive Vested	Inactive Nonvested	Survivor	Disabled	Retired	Beneficiary	Total
6/30/2011 Valuation	24,710	3,921	3,595	1,173	614	40,296	3,338	77,647
Disabled	(10)	(12)			22			0
Retired	(1,532)	(930)				2,462		0
Terminated with Vested Benefit	(582)	582						0
Terminated, due a Refund	(77)		77					0
Died with Survivor	(16)	(16)		24	(8)	(274)	290	0
Died, no Survivor*	(5)	(4)		(33)	(13)	(721)	(160)	(936)
Refunded*	(15)	(26)	(510)					(551)
Forfeited*		(1)	(2,545)					(2,546)
Dropped from Data		(35)	(2)	(4)	(1)	(22)	(8)	(72)
Rehired	143	(103)	(40)					0
Status Corrections		5	(6)		(1)	2		0
Data Corrections		1	225	1		6	17	250
New Hires	72							72
6/30/2012 Valuation	22,688	3,382	794	1,161	613	41,749	3,477	73,864

* No remaining benefit obligation in the plan.

Reconciliation of Participant Data: 1996 Account

	Active	Inactive Vested	Inactive Nonvested	Survivor	Disabled	Retired	Beneficiary	Total
6/30/2011 Valuation	46,633	2,715	23,573	49	95	2,364	46	75,475
Disabled	(13)	(7)			20			0
Retired	(208)	(195)				403		0
Terminated with Vested Benefit	(645)	645						0
Terminated, due a Refund	(2,221)		2,221					0
Died with Survivor	(3)	(3)		5	(3)	(4)	8	0
Died, no Survivor*	(1)				(2)	(13)		(16)
Refunded*	(233)	(69)	(6,105)					(6,407)
Forfeited*		(5)	(6,410)					(6,415)
Dropped from Data	(5)	(11)	(11)				(1)	(28)
Rehired	984	(148)	(836)					0
Status Corrections		59	(62)		2	1		0
Data Corrections		4	158			1		163
New Hires	3,597							3,597
6/30/2012 Valuation	47,885	2,985	12,528	54	112	2,752	53	66,369

* No remaining benefit obligation in the plan.

Closed Group Projection: Pre-1996 Account

The schedules on the following pages for the Pre-1996 Account were produced by means of an actuarial projection.

Whereas actuarial valuations provide a snapshot of the Retirement Fund as of a given date, actuarial projections provide a moving picture of Retirement Fund activities. The projected active and retired groups are developed from year to year by applying assumptions regarding pre-retirement withdrawal from service, retirements, deaths, and disabilities. Projected information regarding plan activity produces an expected future benefit payment stream.

Projection results are useful in demonstrating changing relationships among key elements affecting system financial activity. For example, the relationship between annual benefits paid and assets will change over time. Projections are not predictions of specific future events and do not provide numeric precision in absolute terms. The future pension benefits shown in the table are estimates. Actual payments will likely differ from the amounts shown; however, understanding the relative growth is critical.

Closed Group Projection: Pre-1996 Account

\$Millions

Fiscal Year	Active Members		Retired and Inactive Vested Members	
	Number*	Payroll*	Number*	Pension Benefits Paid*
2013	22,688	\$ 1,637.1	50,382	\$ 866.6
2014	20,193	1,499.1	51,825	885.0
2015	17,968	1,371.4	52,950	929.9
2016	15,913	1,248.5	53,842	971.1
2017	14,051	1,132.8	54,487	1,009.7
2018	12,361	1,023.8	54,853	1,041.9
2019	10,834	921.5	54,996	1,069.5
2020	9,468	827.2	54,920	1,093.3
2021	8,243	739.6	54,647	1,112.7
2022	7,144	658.2	54,190	1,127.9
2023	6,164	583.2	53,561	1,139.0
2024	5,288	513.8	52,770	1,146.3
2025	4,509	449.8	51,821	1,150.2
2026	3,807	389.9	50,735	1,150.1
2027	3,180	334.3	49,522	1,146.4
2028	2,618	282.5	48,188	1,138.8
2029	2,127	235.6	46,732	1,127.0
2030	1,704	193.8	45,155	1,111.4
2031	1,338	156.4	43,468	1,091.5
2032	1,031	123.7	41,690	1,067.4
2033	774	95.5	39,836	1,038.7
2034	568	72.0	37,927	1,005.8
2035	408	53.1	35,971	969.2
2036	285	38.1	33,969	929.3
2037	195	26.8	31,934	886.8
2038	129	18.3	29,884	842.2
2039	83	12.1	27,837	795.9
2040	51	7.6	25,813	748.6
2041	28	4.3	23,829	700.9
2042	14	2.2	21,901	653.2

**All number counts are as of the beginning of the fiscal year. Payroll and benefits paid are expected amounts during the fiscal year. Pension benefits paid reflects the expected defined benefit pension payments (excluding ASA annuities).*

Projections are intended to demonstrate the pattern of future activities and should not be viewed as a prediction of specific dollar amounts in any year.

Closed Group Projection: Pre-1996 Account (Continued)

\$Millions

Fiscal Year	Active Members		Retired and Inactive Vested Members	
	Number*	Payroll*	Number*	Pension Benefits Paid*
2043	5	\$ 0.8	20,044	\$ 606.1
2044	2	0.3	18,271	559.9
2045	1	0.1	16,591	515.3
2046	-	-	15,012	472.4
2047	-	-	13,540	431.5
2048	-	-	12,175	392.8
2049	-	-	10,916	356.3
2050	-	-	9,760	322.0
2051	-	-	8,702	290.0
2052	-	-	7,737	260.2
2053	-	-	6,859	232.5
2054	-	-	6,062	206.9
2055	-	-	5,339	183.2
2056	-	-	4,685	161.5
2057	-	-	4,095	141.5
2058	-	-	3,564	123.3
2059	-	-	3,087	106.7
2060	-	-	2,661	91.7
2061	-	-	2,283	78.3
2062	-	-	1,948	66.4

**All number counts are as of the beginning of the fiscal year. Payroll and benefits paid are expected amounts during the fiscal year. Pension benefits paid reflects the expected defined benefit pension payments (excluding ASA annuities).*

Projections are intended to demonstrate the pattern of future activities and should not be viewed as a prediction of specific dollar amounts in any year.

Summary of Benefit Provisions

Regular Retirement

Eligibility	Age 65 with ten years of service, or age 60 with 15 years of service, or if age is at least 55 and the sum of age plus credited service is at least 85.
Annual Amount	State pension equal to total service times 1.1% of Average Annual Compensation.

Early Retirement

Eligibility	Age 50 with 15 years of service.
Annual Amount	State pension is computed as regular retirement benefit, but reduced for each month between age at early retirement and attainment of age 65. The age reduction factor is calculated as the sum of the following: <ul style="list-style-type: none">• 1/10 of 1% for each month from age 60 to 65.• 5/12 of 1% for each month from age at early retirement to 60.

Deferred Retirement

Eligibility	Ten years of service. Benefit commences at regular or early retirement eligibility.
Annual Amount	Computed as a regular retirement benefit with state pension based on service and Average Annual Compensation at termination.

Disability Retirement

Regular Disability Benefit:

Eligibility	Five years of service.
Annual Amount	\$125 per month plus \$5 per month for each year of service credit over five years.

Disability Retirement Benefit:

Eligibility	Five years of service and determined to be disabled by the Social Security Administration. Annual verification of Social Security disability is required.
Annual Amount	Computed as a regular retirement benefit using creditable service to the date of disability and without reduction for early retirement. The minimum benefit is \$180 per month.

Summary of Benefit Provisions

Death Before Retirement

Eligibility	15 years of service. Spouse to whom member had been married for two or more years is automatically eligible, or a dependent may be designated as beneficiary.
Annual Amount	Computed as regular retirement benefit but reduced in accordance with a 100% joint and survivor election.

Benefit Increases After Retirement

No automatic increases after retirement are provided. Periodically, unscheduled increases have been made. In September 2012, retirees were paid a service-related lump sum ranging from \$150 to \$450.

Average Annual Compensation

Average of highest five years of compensation. Years do not need to be consecutive.

Member Contributions

All Fund members are required by state law to contribute 3% of salary contributions to their Annuity Savings Account. These 3% contributions are generally "picked up" by the employer and contributed on a pre-tax basis on behalf of the employee. Extra voluntary contributions by the member are also possible, but on a post-tax basis. At retirement, there are six alternatives for receiving the proceeds of this account, including lump sums, full and partial rollovers, full and partial annuitization of the balance, and deferred distribution.

Forms of Benefit Payment (Pension)

The normal form of benefit payment (Option A-1) is a single life annuity with a five-year certain period. There are five optional forms of payment available, as listed below. Additionally, members retiring between ages 50 and 62 may integrate their pension benefit with their Social Security benefit by choosing Social Security Integration (Option A-4) in conjunction with the normal form or any other optional form selected. Optional forms of payment are calculated on an actuarially equivalent basis.

- Option A-2: Straight Life benefit with no certain period
- Option A-3: Modified Cash Refund Annuity (operates in conjunction with the Annuity Savings Account)
- Option B-1: 100% Survivorship
- Option B-2: 66 2/3% Survivorship
- Option B-3: 50% Survivorship

State law provides for actuarially-adjusted and re-calculated benefits based on a new optional form election in the event of the death of the member's spouse after retirement.

Optional forms of benefit are calculated based on 7.5% interest with a 40%/60% unisex blend of the 1983 Group Annuity Male Mortality table set back three years and the 1983 Group Annuity Male Mortality table set back seven years.

Summary of Actuarial Assumptions and Methods

The assumptions used in this valuation reflect the study of experience covering the period July 1, 2007 through June 30, 2011.

Investment Return Rate	6.75% per year, compounded annually (net of all expenses paid from the plan).
Pay Increase Assumption	Sample increases are shown in a table on the following pages. The assumption for each year of service consists of a merit and/or seniority increase and 3.0% for price inflation.
Total Active Member Payroll	Assumed to annually increase 10% for the 1996 Account and decrease according to the projection in the Payout Projections section for the Pre-1996 Account for purposes of calculating the projected contribution for the 2014 fiscal year.
Price Inflation	3.0% per year. Price inflation is not directly tied to benefits; however, it is a component of the economic model used to determine total wage inflation.
Mortality <i>Healthy</i>	2013 IRS Static Mortality Table projected an additional 5 years (gender specific).
<i>Disabled</i>	2013 IRS Static Mortality Table projected an additional 5 years (gender specific).
Retirement	Probabilities are shown in tables on the following pages.
Withdrawal	Sample probabilities are shown in tables on the following pages.
Disability	Sample probabilities are shown in a table on the following pages.
Actuarial Cost Method	Entry Age Normal (level percent of pay) method, with a 30-year, closed, level dollar amortization of the Unfunded Accrued Liability arising from all sources including actuarial gains and losses.
Asset Valuation Method	The Actuarial Value of Assets recognizes investment gains and losses in equal installments over four years. However, the Actuarial Value is limited to no more than 20% greater than or 20% less than the Market Value of Assets. Investment experience on ASA account balances is not smoothed.
Marriage Assumption	100% of members are assumed to be married for purposes of valuing death-in-service benefits. Male spouses are assumed to be three years older than female spouses.
Pay Increase Timing	Beginning of (fiscal) year. Payroll amounts stated in the valuation data are amounts projected to be paid during the current year.
Decrement Timing	Decrements are assumed to occur at the beginning of the year.

Summary of Actuarial Assumptions and Methods

Other	Disability and withdrawal decrements do not operate after member reaches retirement eligibility. Only the withdrawal and death decrements operate during the first ten years of service.
Miscellaneous Adjustments	The calculated liabilities and normal costs were increased by 1% to account for the inclusion of unused sick leave in the calculation of Average Annual Compensation.
Actuarial Equivalence Basis for Optional Forms of Payment	7.5% interest with a 40%/60% unisex blend of the 1983 Group Annuity Male Mortality table set back three years and the 1983 Group Annuity Male Mortality Table set back seven years.
Explicit Expense Load	None.
COLA Assumption	1.0% compounded annually on pension portion.
Employee Census and Asset Data	The member census data and the asset information for this valuation were furnished by the Chief Financial Officer and Staff. We did not audit the information provided, but we did review it thoroughly for reasonableness and compared it with the prior year's submission for consistency.

The actuarial valuation computations were made under the supervision of a Member of the American Academy of Actuaries (MAAA).

Summary of Actuarial Assumptions and Methods

Probabilities of Age and Service Retirement

Regular Retirement		Rule of 85 Retirement		Early Retirement	
Age	Probability	Age	Probability	Age	Probability
				50-53	0.020
				54	0.050
		55	0.100	55	0.050
		56	0.100	56	0.050
		57	0.100	57	0.050
		58	0.125	58	0.050
		59	0.150	59	0.100
60	0.175	60	0.175		
61	0.200	61	0.200		
62	0.250	62	0.250		
63	0.250	63	0.250		
64	0.250	64	0.250		
65	0.300	65	0.300		
66	0.300	66	0.300		
67	0.300	67	0.300		
68	0.300	68	0.300		
69	0.300	69	0.300		
70	1.0000	70	1.0000		

Probabilities of Disability

Attained Age	Age-Based	
	Male	Female
25	0.0001	0.0001
30	0.0001	0.0001
35	0.0001	0.0001
40	0.0001	0.0001
45	0.0002	0.0002
50	0.0005	0.0005
55	0.0009	0.0009
60	0.0010	0.0010

Summary of Actuarial Assumptions and Methods

Probabilities of Withdrawal

Years of Service	Service-Based	
	Male	Female
0	0.3500	0.3500
1	0.1400	0.1400
2	0.1100	0.1100
3	0.0800	0.0900
4	0.0600	0.0800
5	0.0450	0.0700
6	0.0400	0.0600
7	0.0400	0.0500
8	0.0350	0.0450
9	0.0350	0.0400

Attained Age	Age-Based*	
	Male	Female
30	0.0200	0.0350
35	0.0200	0.0300
40	0.0200	0.0200
45	0.0200	0.0200
50	0.0200	0.0200
55	0.0200	0.0200
60	0.0200	0.0200

**Age-Based rates apply only if 10 or more years of service.*

Summary of Actuarial Assumptions and Methods

Pay Increase Assumption

Years of Service	Merit & Seniority	Inflation	Total
1	9.25%	3.00%	12.50%
5	4.00%	3.00%	7.00%
10	2.75%	3.00%	5.75%
15	1.50%	3.00%	4.50%
20	0.25%	3.00%	3.25%
25	0.00%	3.00%	3.00%
30	0.00%	3.00%	3.00%
35	0.00%	3.00%	3.00%
40	0.00%	3.00%	3.00%

Definitions of Technical Terms

Accrued Service	Service credited under the system that was rendered before the date of the actuarial valuation.
Accrued Liability	The difference between the actuarial present value of future benefit payments and the actuarial present value of future normal costs. Also referred to as “actuarial accrued liability” or “past service liability”.
Actuarial Assumptions	Estimates of expected future experience with respect to rates of mortality, disability, turnover, retirement, rate of investment return, and pay increases. Decrement assumptions (rates of mortality, disability, turnover, and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (pay increases and investment return) consist of the underlying rates in an inflation-free environment plus a provision for a long-term average rate of inflation.
Actuarial Cost Method	A mathematical budgeting procedure for allocating the dollar amount of the “actuarial present value of future benefit payments” between future normal costs and actuarial accrued liabilities. Sometimes referred to as the “actuarial funding method”.
Actuarial Equivalent	One series of payments is said to be actuarially equivalent to another series of payments if the two series have the same actuarial present value.
Actuarial Gain /(Loss)	The difference between actual unfunded actuarial accrued liability and anticipated unfunded actuarial accrued liability — during the period between two valuation dates. It is a measurement of the difference between actual and expected experience.
Actuarial Present Value	The single amount now that is equal to a payment or series of payments in the future. It is determined by discounting future payments at predetermined rates of interest and by probabilities of payment.
Amortization	Paying off a present value with periodic payments.
Normal Cost	The portion of the actuarial present value of future benefits that is assigned to the current year by the actuarial cost method. Sometimes referred to as “current cost”.
Unfunded Accrued Liability	The difference between the accrued liability and the actuarial value of assets. Sometimes referred to as “unfunded past service liability” or “unfunded actuarial accrued liability” or simply as “unfunded liability”.

The Actuarial Valuation Process

The **actuarial valuation** is the mathematical process by which a contribution rate is determined. The flow of activity constituting the valuation may be summarized as follows:

Covered Person Data: Furnished by the Plan Administrator

Retired Members and Beneficiaries Now Receiving Benefits
Former Employees with Vested Benefits Not Yet Payable
Active Members

+ **Asset Data (Cash and Investments):** Furnished by the Plan Administrator

+ **Estimates of Future Experience (Actuarial Assumptions):** Established by the Board of Trustees after Consulting with the Actuary

+ **Funding Method:** The Allocation of Employer Costs to Past Service, Current Service, and Future Service

+ **Mathematically Combining the Assumptions, the Funding Method, and the Data**

= **Determination of:**

Plan Funded Status and Employer Contribution Rate